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09/825,649	04/04/2001	Hiroki Kitahori	JP920000056US1	5469

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EXAMINER	
RODRIGUEZ, GLENDA P	
ART UNIT	**PAPER NUMBER**
2651	9

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/825,649	Applicant(s) KITAHORI ET AL.	
	Examiner Glenda P. Rodriguez	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-16 and 18* is/are pending in the application.

4a) Of the above claim(s) *2 and 7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-16 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bogdanski (US Patent No. 4, 703, 379).

Regarding Claim 1, Bogdanski teach a disk device, comprising:

A magnetic disk for storing data (See Fig. 2, Element 26);

An enclosure for containing the magnetic disk (See Fig. 2, Element 10. Bogdanski teaches that the medium is enclosed in a housing surrounding the magnetic disk along with all its components.);

And a local magnetic field generator provided in the enclosure for generating a local magnetic field when the enclosure is set in an external magnetic field (See Fig. 2, Element 62. Bogdanski teach a magnetic field generator (electromagnet) that is enclosed in the housing generates a local magnetic field used for erasing magnetic disk.).

The local magnetic field generator is provided on the surface of the enclosure facing the magnetic disk, and the local magnetic field is generated from the enclosure toward the magnetic disk (See Fig. 2 (Element 62). Bogdanski teaches a permanent magnet (or electromagnet) located at the surface of the disk. The

permanent magnet generates a field used to erase the surface of the magnetic disk (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field through a magnetic mutual induction toward the magnetic disk.).).

Regarding Claim 3, Bogdanski teach all the limitations of Claim 1. Bogdanski also teaches wherein the local magnetic field has a main component parallel to a surface of the magnetic disk in an area where the magnetic disk is located (See Fig. 2, Element 62. Bogdanski teaches that the magnet lies parallel to the disk surface.).

Regarding Claim 4, Bogdanski teaches a disk device:

A disk-like storage medium having a magnetic film formed on its surface (Col. 5, Lines 65-67);

And an enclosure case covering the disk-like storage medium and having pole pieces extending from an interior surface of the enclosure case toward the surface of the disk-like storage medium, one of which is a starting point of magnetic flux generation (See Fig. 2, Element 62. Bogdanski teaches permanents magnet field generator (electromagnet) that extend from the interior surface of the enclosure throughout the surface of the disk in order to erase all the surface of the disk (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field through a magnetic mutual induction toward the magnetic disk.).).

Regarding Claim 5, Bogdanski teach all the limitations of Claim 4. Bogdanski also teaches wherein the disk device erases data stored in the disk-like storage medium by magnetic

flux starting from one of the pole pieces when the disk device is set in an external magnetic field (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field when a current is provided to that magnet.).).

Regarding Claim 14, Bogdanski teach a disk device, comprising:

A disk-like storage medium having a surface with a magnetic film having a predetermined coercive force (See Fig. 2, Element 26. It is inherent that the film placed on the magnetic medium has a certain resistance to force.);

An enclosure case containing the disk-like storage medium (See Fig. 2, Element 10);

And a magnetic field generator protruding from a side of the enclosure case and facing the disk-like storage medium for forming a magnetic field with a magnetic gradient that is steeper than that of an external magnetic field when the enclosure case is set in the external magnetic field (See Fig. 2, Element 62. Bogdanski teaches a permanent magnet (or electromagnet) located at the surface of the disk protruding from the inside of the enclosure. The permanent magnet generates a field used to erase the surface of the magnetic disk (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field through a magnetic mutual induction toward the magnetic disk.).);

And wherein at least a portion of the magnetic field generator is located closer to the disk-like storage medium than the enclosure case (See Fig. 2, Element 62. Bogdanski teaches an permanent magnet used in the inside of the enclosure that is closer to the disk-like storage and used to erase the data in the disk.).

Regarding Claim 15, Bogdanski teach wherein intensity of the magnetic field formed by the magnetic field generator is stronger than the predetermined coercive force of the disk-like storage medium (It is inherent that when an erasing procedure takes place its intensity is higher than the coercive force in the disk medium.).

Regarding Claim 6, Bogdanski teach a disk device, comprising:

A magnetic disk for storing data (See Fig. 2, Element 26. It is inherent that the disk stores data.);

An enclosure containing the magnetic disk (See Fig. 2, Element 10);

An actuator (Col. 3, Lines 23-32) having a magnetic head for reading data from and writing data to the magnetic disk (See Fig. 2, Bogdanski teaches the use of a magnetoresistive head (Element 36).);

A pair of protrusions mounted to and extending from an interior surface of the enclosure facing the magnetic disk, wherein the protrusions are composed of soft magnetic material formed toward the magnetic disk and are spaced apart from the magnetic head (See Fig. 2, Element 60 and 62. Bogdanski teaches protrusions facing the magnetic disk that erase the surface of the disk. The erasing magnets are located separate from the magnetic head (Element 36).).

Regarding Claim 7, Bogdanski teaches all the elements of Claim 6. Bogdanski further teaches wherein the pair of protrusions is provided in a position corresponding to an inner circumference side of the magnetic disk (See Fig. 2, Element 62. Bogdanski teaches that the magnets used to erase the disk are located at the surface of the disk (and according to the drawing, the area also includes the inner circumference)).

Regarding Claim 9, Bogdanski teaches all the limitations of Claim 6. Bogdanski further teaches wherein the pair of protrusions is located in a circumferential direction of the magnetic disk while maintaining a predetermined gap therebetween (Col. 5, Lines 12-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) in view of Tielemans et al. (US Patent No. 6, 046, 881). Bogdanski teaches all the limitations of Claim 6. Bogdanski fail to teach wherein the enclosure includes a box-like base having an opening part, and a top cover for covering the opening part of the base, and the pair of protrusions is provided on the top cover. However, this feature is well known in the art, as disclosed by Tielemans et al., as disclosed by Tielemans et al., wherein it teach one surface of the enclosure facing the magnetic disk is composed of soft magnetic material (Pat. No. 6, 046, 881; Col. 3, Lines 29-34). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski's invention in order for the medium to be able to be magnetic and receive the magnetic flux from the external magnetic field.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) in view of Araki et al. (US Patent No. 5, 657, 190). Bogdanski teaches a disk device for storing and reading data, comprising:

A magnetic disk for storing data (Pat. No. 4, 703, 379; See Fig. 2, Element 26);

An actuator having a magnetic head for reading from and writing data to the magnetic disk (Pat. No. 4, 703, 379; See Fig. 2, Bogdanski teaches the use of a magnetoresistive head (Element 36), but fails to teach the use of an actuator. However, it is inherent to an artisan that the magnetic head needs an actuator in order to move throughout the disk.).);

A magnetic gap formed on said at least one surface of the enclosure between a pair of protrusions that extend from said at least one surface of the enclosure, wherein the pair of protrusions are discontinuous with the magnetic head of the actuator (Pat. No. 4, 703, 379; See Fig. 2, Element 62 and Col. 5, Lines 12-22. Bogdanski teaches a magnet used for erasing the data in the disk. It is known that a gap must remain between the magnet and the disk in order to evade any damage done to the disk when performing any operation.).

Although Bogdanski describes the actuator function in Col. 3, Lines 23-32, Bogdanski fail to teach wherein at least one surface of the enclosure facing the magnetic disk is composed of soft magnetic material. However, this feature is well known in the art as disclosed by Araki et al., wherein it teach an enclosure for containing the magnetic disk and the actuator, wherein at least one surface of the enclosure facing the magnetic disk is composed of soft magnetic material (Pat. No. 5, 657, 190; See Fig. 1. Araki et al. teach that the medium is enclosed in a housing surrounding the magnetic disk along with all its components). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski's invention in order to have the enclosure made of a soft magnetic material because it is known in the art that these types of materials are used for this function.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) and Araki et al. (US Patent No. 5, 657, 190) as applied to claim10 above, and further in view of Tielemans et al. (US Patent No. 6, 046, 881).

Regarding Claim 11, Bogdanski and Araki et al. teach all the limitations of Claim 10. Bogdanski and Araki et al. fail to teach wherein the magnetic gap is a vacancy formed in the enclosure composed of the soft magnetic material. However, this feature is well known in the art as disclosed by Tielemans et al., wherein it teach that the magnetic gap is a vacancy formed in the enclosure composed of the soft magnetic material (Pat. No. 6, 046, 881; Col. 3, Lines 29-34. It is obvious to a person of ordinary skill in the art that there exists a vacancy between the enclosure and the disk.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Araki et al.'s invention in order for the medium to be able to generate a magnetic field by the use of magnetic materials.

Regarding Claim 12, Bogdanski and Araki et al. teach all the limitations of Claim 11. Bogdanski and Araki et al. fail to teach wherein a magnetic circuit generating magnetic flux toward the magnetic disk is formed around the vacancy. Bogdanski however, teaches a magnet that lies over the surface of the disk in which is used for erasing data in the disk (Pat. No. 4, 703, 379; See Fig. 2, Element 62 and Col. 4, Lines 40-45 and Lines 51-56). It is obvious that for a magnetic element to move and produce a magnetic flux when a current and/or voltage is applied to the magnetic element.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski and Araki et al. as applied to Claim 12 above, and further in view of Ahmad et al. (US Patent No. 6, 175, 469). Bogdanski and Araki et al. teach all the limitations of Claim 12. Bogdanski and

Araki et al. fail to teach wherein the magnetic circuit is integrally formed with the enclosure as a single piece. However, this feature is known in the art, as disclosed by Ahmad et al., wherein it teach a top cover of a housing that contains the magnets (Pat. No. 6, 175, 469; Col. 8, Lines 19-29). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Araki et al.'s invention in order for the medium to have the components in one piece in order for the medium to be able to perform the magnetic field more effectively.

Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) in view of Araki et al. (US Patent No. 5, 657, 190) and Nagasato et al. (US Patent No. 5, 146, 447).

Regarding Claim 16, Bogdanski teaches a system for erasing data in a disk device for storing and reading data, comprising:

> A magnetic disk for storing data (Pat. No. 4, 703, 379; See Fig. 2, Element 26);
>
> An actuator having a magnetic head for reading from and writing data to the magnetic disk (Pat. No. 4, 703, 379; See Fig. 2, Bogdanski teaches the use of a magnetoresistive head (Element 36).);
>
> A magnetic gap formed on said at least one surface of the enclosure between a pair of protrusions that extend from said at least one surface of the enclosure, wherein the pair of protrusions are discontinuous with the magnetic head of the actuator (Pat. No. 4, 703, 379; See Fig. 2, Element 62 and Col. 5, Lines 12-22. Bogdanski teaches a magnet used for erasing the data in the disk. It is known that a gap must remain between the magnet and the disk in order to evade any damage done to the disk when performing any operation.).

Although Bogdanski describes the actuator function in Col. 3, Lines 23-32, Bogdanski fail to teach wherein at least one surface of the enclosure facing the magnetic disk is composed of soft magnetic material. However, this feature is well known in the art as disclosed by Araki et al., wherein it teach an enclosure for containing the magnetic disk and the actuator, wherein at least one surface of the enclosure facing the magnetic disk is composed of soft magnetic material (Pat. No. 5, 657, 190; See Fig. 1. Araki et al. teach that the medium is enclosed in a housing surrounding the magnetic disk along with all its components). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski's invention in order to have the enclosure made of a soft magnetic material because it is known in the art that these types of materials are used for this function. Bogdanski and Araki et al. fail to teach the use of an external magnet in the exterior surface of the enclosure. However, this feature is well known in the art as disclosed by Nagasato et al., wherein it teach an external magnet in the exterior surface of the enclosure (Pat. No. 5, 146, 447; Col. 9, Line 56 to Col. 10, Line 19). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski and Araki et al.'s invention in order to have an external magnet in order to supply an external magnetic field to the medium.

Regarding Claim 18, Bogdanski teaches a data-erasing method for erasing data stored in a magnetic disk in a disk device, comprising the steps of:

> Providing a disk device with a magnetic disk located inside an enclosure (Pat. No. 4, 703, 379; See Fig. 2, Element 26);

Bogdanski fails to teach the use erasing data stored in the magnetic disk by generating an internal magnetic field with a magnetic gradient that is steeper than that of the external surface of the

enclosure. However, it is obvious to a person of ordinary skill in the art that in order to the interior magnet to erase the data in the disk, the magnetic field has to be greater than the one provided by the any external magnetic field (Pat. No. 4, 703, 379; Fig. 2, Element 62 Shows a permanent magnet used to erase the disk data.). Bogdanski fails to teach generating an external magnetic field on an exterior of the enclosure such that the external magnetic field at least partially penetrates the enclosure, inserting the disk device into the external magnetic field and erasing data stored in the magnetic disk by generating an internal magnetic field with a magnetic gradient that is steeper than that of the external surface of the enclosure. However, this feature is well known in the art as disclosed by Nagasato et al., wherein it teaches an external magnetic field on an exterior of the enclosure such that the external magnetic field wherein there is a disk inside the enclosure (Pat. No. 5, 146, 447; Col. 9, Line 56 to Col. 10, Line 19). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski and Araki et al.'s invention in order to have an external magnet in order to supply an external magnetic field to the medium.

Response to Arguments

Applicant's arguments with respect to claims 1, 3-17, and 18 have been considered but are moot in view of the new ground(s) of rejection.

Examiner acknowledges that Claims 2 and 17 have been cancelled in paper #7 dated 10/7/2003.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (703)305-8411. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is (703)308-6743.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9000.

gpr
December 9, 2003.

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600